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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,850	05/13/2005	Gustav Schweiger	ABP 1132-KFM	8960

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MILDE & HOFFBERG, LLP  
10 BANK STREET  
SUITE 460  
WHITE PLAINS, NY 10606

EXAMINER

CHU, CHRIS H

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/534,850

Applicant(s)

SCHWEIGER, GUSTAV

Examiner

Chris H. Chu

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 11-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-10 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-10, drawn to an apparatus comprising a resonator mounted in a cutout of a waveguide, classified in class 385, subclass 15.
- II. Claims 11-21, drawn to an apparatus comprising a resonator placed between two bars coupled to light guides, classified in class 385, subclass 39.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not capable of being used together and have different modes of operation. Invention I has a resonator mounted in a cutout of a waveguide, and invention II has a resonator placed in the front of a wedge-shaped sensing tip with two converging bars which are coupled to two light guides.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and require different searches, restriction for examination purposes as indicated is proper.

During a telephone conversation with Karl Milde on August 10, 2006, a provisional election was made without traverse to prosecute the invention of an

apparatus comprising a resonator mounted in a waveguide, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Information Disclosure Statement***

The prior art documents submitted by applicant in the Informational Disclosure Statement filed on June 13, 2005 have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

Seven (7) sheets for formal drawings were filed May 13, 2005 and have been accepted by the Examiner.

### ***Specification***

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: "in apparatus" should be changed to "an apparatus." Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 2 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (EP 0251496 A2 from the applicant's Information Disclosure Statement) in view of Ilchenko (US 2003/0012504 A1).**

Regarding claim 1, Jones discloses a temperature sensor using a light source (1 in Fig. 1) and a light guide (2 in Fig. 1) coupled to a radiation modulation means (3 in Fig. 1) and means for the observation of light (photoresponsive elements 6,7 and microprocessor 10 in Fig. 1). Jones teaches the claimed invention except for a resonator mounted in a cutout of the light guide. Ilchenko teaches an optical resonator shaped as a microparticle (see paragraph 0003) at least partly mounted in a cutout (groove 1010 in Fig. 11) formed in the light guide and optically coupled to the light guide in Figs. 10 and 11. Ilchenko does not specifically state the resonator fixed to the light guide, but does teach that the resonator is "brought into mechanical contact" with the light guide in paragraph 0058 and further, it would have been obvious to fix the resonator to the light guide for the purpose of providing a stable device. Since both inventions relate to coupling resonators to light guides, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the sensor of

Jones by coupling the resonator to the light guide as disclosed by Itchenko for the purpose providing more efficient coupling.

Regarding claim 2, Itchenko discloses the cutout formed on a free end of the light guide having an opening to the front side of the light guide in Fig. 10.

Regarding claim 5, Itchenko discloses only one light guide present in Fig. 11, but does not specifically state the light propagating in a first direction and in a second direction opposite the first direction. However, waveguides with light traveling in opposite directions are well known in the art and one having ordinary skill in the art at the time the invention was made would have found it obvious to use such a waveguide for the purpose of conserving space by only using one waveguide.

Regarding claim 6, Itchenko discloses the resonator contacting the light guide at two locations which are separated by a distance in Fig. 10. Itchenko teaches the claimed invention except for the resonator held in the cutout by clamping. However, attaching components to waveguides by clamping is well known in the art and one having ordinary skill in the art at the time the invention was made would have found it obvious to have the resonator clamped to the waveguide for the purpose of securing the resonator in the desired position.

Regarding claim 7, Itchenko discloses the resonator positioned with a gap remaining between the resonator and the light guide in Fig. 11.

Regarding claim 8, Itchenko discloses the light guide to be tapered at its free end in Fig. 10.

Regarding claim 9, Itchenko teaches the claimed invention except for the light guide closed at its free end by a cap or a sealing compound. However, as stated in the rejection of claim 6, attaching components to waveguides by clamping is well known in the art and one having ordinary skill in the art at the time the invention was made would have found it obvious to use a clamping device which would be a cap that closes off the free end of the light guide for the purpose of securing the resonator in the desired position.

Regarding claim 10, Itchenko discloses the light guide to have a lengthwise slit on its end in Fig. 10.

#### ***Allowable Subject Matter***

**Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

The following is a statement of reasons for the indication of allowable subject matter: The prior art cited on attached form PTO-892 is the most relevant prior art known, however, the invention of these claims distinguishes over the prior art of record because none of the references either alone or in combination disclose or render obvious what is defined in these claims.

Claim 3 distinguishes over the prior art of record because it discloses the light guide to be a hollow waveguide. Itchenko teaches a waveguide with a groove in order to align and to provide maximum coupling of the waveguide core and the resonator, but

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a groove on the end of the waveguide would not be combinable with a hollow waveguide. Claim 4 depends from claim 3.

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris H. Chu whose telephone number is 571-272-8655. The examiner can normally be reached on 8:30 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562.

*Chris Chu* 8/18/06

Chris H. Chu  
Patent Examiner  
August 18, 2006

*Michelle R. Connelly-Cushwa*  
MICHELLE CONNELLY-CUSHWA  
PRIMARY EXAMINER  
8/21/06